NON-CONVENTIONAL ENERGY SOURCES (SHRI KALP NATH RAI): (a) Yes- Sir, the plant did not function satisfactorily as per the contract.

(b) Failure of the turnkey contractor M/s Volund to rectify the defects and demostrate its performance as per the contract.

(c) Compensation for the entire expenditure incurred on the project has been claimed from M/s VOLUND.

केन्द्रीय क्षेत्र की विद्युत परियोजनाओं को पूरा किया जाना

3014. **श्री कैलाश नारायण सारंग:**
श्री अजीत जोगी:
कुमारी सुशीला तिरिया:

क्या विद्युत और गैर-पारंपरिक ऊर्जा स्रोत मंत्री यह बताने कृपा करेंगे कि:

(क) क्या यह सच है कि केन्द्रीय क्षेत्र के विन्ध्याचल ताप विद्युत संयंत्र की 500 मेगावाट क्षमता को अतिरिक्त ईकाई, कवास गैस आधारित विद्युत परियोजना और गंधार गैस आधारित परियोजना का काम आठवीं योजना अवधि के दौरान पूरा कर लिया जाएगा;

(ख) यदि हां, तो इन परियोजनाओं की अधिष्ठापित क्षमता में से मध्य प्रदेश के लिए कितना विद्युत की आपूर्ति की जायेगी?

विद्युत और गैर-पारंपरिक ऊर्जा स्रोत मंत्रालय के राज्य मंत्री (श्री कल्पनाथ राय): (क) राष्ट्रीय ताप विद्युत निगम की कवास गैस विद्युत परियोजना चरण-1 और गंधार गैस विद्युत परियोजना चरण-1 को 8वीं योजना के दौरान पूरा किए जाने की प्रत्याशा है। विन्ध्याचल सुपर ताप विद्युत परियोजना चरण-2 का निर्माण कार्य 8वीं योजना अवधि के बाद भी जारी रहेगा।

(ख) इस परियोजनाओं से मध्य प्रदेश को विद्युत का आवंटन, केन्द्रीय ताप विद्युत केन्द्रों से विद्युत के आवंटन हेतु केन्द्रीय फार्मूले के अनुसार किया जाएगा।

Erratic Power Supply in Laxmi Nagar, Delhi

3015. SHRI CHATURANAN MISHRA: Will the Minister of POWER AND NON-CONVENTIONAL ENE RGY SOURCES be pleased to state:

(a) whether it is a fact that for the last two months there is frequent break-down of electric supply in Laxmi Nagar, J-Ext., N-Block- AP-Block and other adjoining blocks in Delhi;

(b) whether it is also a fact that on two or three occasions breakdown was for more than 30 hours;

(c) if so, what are the details thereof; and

(d) what steps are being taken to improve the power supply and check frequent breakdown?

THE MINISTER OF STATE OF THE MINISTRY OF POWER AND NON-CONVENTIONAL ENERGY SOURCES. (SHRI KALP NATH RAI): (a) to (d) According to DESU, there were 8 breakdowns in the said area during the last two months, out of which the electric supply remained disrupted for about 30 hours on one occasion. This was due to the simultaneous fault in both the undergound 11 KV Cables feeding J-Extension Laxmi Nagar Pole-Mounted sub-station. The steps taken to improve the power supply in the area include provision of an additional 11 KV feeder, augmentation of transformer capacity and extensive maintenance of the system.

Rammam Hydel Project in West Bengal

3016. SHRI RATNA BAHADUR RAI: Will the Minister of POWER AND NON-CONVENTIONAL ENERGY SO URCES be pleased to state:

(a) when the work on the Rammam Hydel Project in West Bengal has been started and by when it is likely to be completed;

(b) what is the total estimated cost thereof, and how much has been spent on it so far; and

(c) what will be the generating capacity of this project?

THE MINISTER OF STATE OF THE MINISTRY OF POWER AND NON-

CONVENTIONAL ENERGY SOURCES. (SHRI KALP NATH RAI): (a) The works on Rammam Hydel Project, Stage-II have been started with effect from 19.4.1977. The project is expected to be commissioned during 1993-94.

(b) The latest estimated cost of the project is Rs. 105.07 crores. An amount of Rs. 73.58 crores has been spent upto September, 1991 on the project works.

(c) The project envisages installation of four units of 12.5 MW each aggregating to 50 MW, with an energy generation of 109.5 Million Units per annum.

Tussle for Indian Market for Solar Photovoltaic Devices

3017. SHRI DHULESHWAR MEENA: Will the Minister of POWER AND NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) whether it is a fact that tussle is on the cards to grab India's nascent and till, recently, protected market for solar photovoltaic devices;

(b) whether the entry of the private company TATA BP Solar is posing a challenge to the Central Electronics Limited which is a sick public sector enterprise;

(c) whether several more private sector companies with foreign collaboration are set to enter the field taking advantage of the liberalised economic policy;

(d) if so, whether the CEL is evolving any major restructuring plan which includes a thrust on exports as well as domestic marketing; and

(d) what is the other manner in which it is gearing up to face competition?

THE MINISTER OF STATE OF THE MINISTRY OF POWER AND NON-CONVENTIONAL ENERGY SOURCES (SHRI KALP NATH RAI): (a) to (e) The Photovoltaic industry entered a commercial phase of operation around 1985 with the following three public sector enterprises being the major manufacturers:

— Central Electronics Limited,
— Bharat Heavy Electricals Limited,
— Rajasthan Electronics & Instruments Ltd.

Central Electronics Limited continues to be the largest photovoltaic manufacturer in the country today with an installed capacity of about 2 Megawatt Peak (MWP) of solar cells and modules per year.

Tata-BP Solar India Ltd., were given a Letter of Intent and approval for foreign collaboration in 1988 for setting up a unit for the manufacture of photovoltaic modules and systems with an annual capacity of 1 MWP. Commercial production from their unit began about two years ago; they are still to reach their licensed capacity. CEL does not consider this to be a challenge to them. There are over 20 other companies, many in the small scale sector which have obtained licences or registrations for photovoltaic manufacture. Most of these companies manufacture only systems for different applications obtaining modules from other manufacturers.

The size of the Indian photovoltaic market has been around one MW per year till recently. There are signs of increase in this market mainly due to an increase in use of photovoltaic systems for commercial applications such as telecommunications. Both CEL and BHEL have drawn up plans to expand their production to meet the growing requirements of the domestic market. Efforts are also being made to secure export orders. At the same time improvements are also being carried out in the technology. CEL is establishing cooperation with a leading research group at the University of New South Wales in Australia for this purpose. Development work in the area of multi-crystalline silicon solar cells is also in progress at CEL.

Only one application (submitted by the West Bengal Electronics Corpn. Ltd.) for foreign collaboration to be set up a photovoltaic manufacturing unit for export purposes has been received by government after the introduction of the new industrial policy.